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NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS.

Technical Memorandum No. 11.

THE GOEBEL ROTARY ENGINES.

Translated by Paris Office, N. A. C. A.

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Memorial Aeronautical
Laboratory

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DESCRIPTION OF ENGINE. The Goebel Rotary Engines, manufactured by the Gandenberger Machine Works at Darmstadt, were not used at the Front with the exception of the over-dimensioned GOE III, which proved to be most satisfactory. Nothing has yet been heard about the small 30 HP GOE IV engine for sport airplanes. In GOE II and GOE III, the valve gear is worthy of notice. The exhaust valves are controlled by means of a fixed cam gear. A mobile auxiliary cam admits half compression only and facilitates starting and light running. Control connection from the pilot's cockpit; piston in two parts, the under part forming the actual conduit, the upper part having piston rings and connecting rod end; intake valve in top of piston, equilibrated by counterweight. (See following table)

*(From "Nachrichten fur Luftfahrer," Vol.2, No.3, p.45)

THE GOEBEL GOERO ROTARY ENGINE

Type	Goe VI	Goe V	Goe II	Goe III
Normal power HP	30	50	100	200
R.p.m. of same	1150	1150	1150	1150
Maximum power HP	40	65	110	230
R.p.m. of same	1200	1200	1200	1200
Cylinder number	7	7	7	9
Boremm.	94	105	138	138 = 5.5"
Strokemm.	95	105	150	(290) ? 190 = 7.5"
Cylinder fastening	flange	thread	bayonet	thread
Diameter of engine in mm.	660	700	980	1140 45"
Length of engine mm.	900	965	1025	1130 44.5"
Weight with propeller: hubkg.	55	75	123	183
Specific weight in relation to maximum power kg/HP	1.38	1.16	1.12	0.80 1.76 lb
Gasoline consumption l/h	20 (380)	30 (350)	50 (345)	80 (263)
Specific do. gr/HPh	3.5 (96.5)	5 (85)	7 (70)	9 (43)
Oil consumption l/h				
Specific do. gr/HPh				
Fuel	{ Gasoline 0.7 - 0.725			
Oil	{ Castor oil or Mineral oil			
Valve control	Inlet & exhaust valves : Automatic inlet with mechanical control: valve, exhaust valve with mechanical control			
Gas supply inlet	Suction pipe : Through hollow crankshaft and case			
Diameter of intake valvemm.	34	43	54	54
Diameter of exhaust valvemm.	34	43	59	59
Compression ratio	1:4.6	1:5.2	1:4.5	1:5.2
Magneto: Type	Bosch D.A.			
Carburettor	Pallas, type SB-V.-AL : Pallas SBL 70/70			